

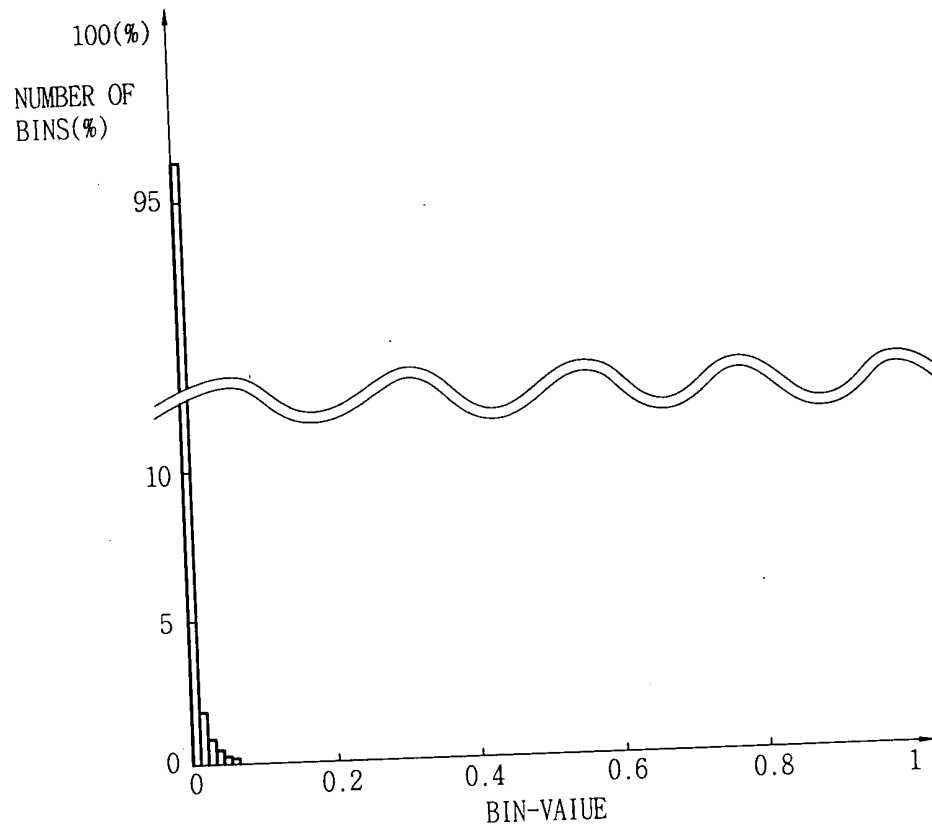
FIG. 1  
CONVENTIONAL ART

16 LEVEL( $2^4=4\text{bits}$ ) QUANTIZATION OF UNIFORM QUANTIZATION

BINARY NOTATION OF QUANTUM VALVE	QUANTUM VALVE	QUANTIZATION SECTION
0000	0	0.0000 ~ 0.0624
0001	$1/15=0.0667$	0.0625 ~ 0.1249
0010	$2/15$	0.1250 ~ 0.1874
0011	$3/15$	0.1875 ~ 0.2499
0100	$4/15$	0.2500 ~ 0.3124
0101	$5/15$	0.3125 ~ 0.3749
0110	$6/15$	0.3750 ~ 0.4374
0111	$7/15$	0.4375 ~ 0.4999
1000	$8/15$	0.5000 ~ 0.5624
1001	$9/15$	0.5625 ~ 0.6249
1010	$10/15$	0.6250 ~ 0.6874
1011	$11/15$	0.6875 ~ 0.7499
1100	$12/15$	0.7500 ~ 0.8124
1101	$13/15$	0.8125 ~ 0.8749
1110	$14/15$	0.8750 ~ 0.9374
1111	1	0.9375 ~ 1.0000

0000 0001 0010 0011 0100 0101 0110 0111 1000 1001 1010 1011 1100 1101 1110 1111

FIG. 2



00511 220260

# FIG. 3

16 LEVEL( $2^4=4\text{bits}$ ) QUANTIZATION OF UNIFORM QUANTIZATION

BINARY NOTATION OF QUANTUM VALVE	QUANTUM VALVE	QUANTIZATION SECTION
0000	0	0
0001	$1/15=0.0667$	0.0001 ~ 0.0071
0010	$2/15$	0.0072 ~ 0.0142
0011	$3/15$	0.0144 ~ 0.0214
0100	$4/15$	0.0215 ~ 0.0285
0101	$5/15$	0.0286 ~ 0.0356
0110	$6/15$	0.0357 ~ 0.0428
0111	$7/15$	0.0429 ~ 0.0499
1000	$8/15$	0.0500 ~ 0.0570
1001	$9/15$	0.0571 ~ 0.0642
1010	$10/15$	0.0643 ~ 0.0713
1011	$11/15$	0.0714 ~ 0.0784
1100	$12/15$	0.0785 ~ 0.0855
1101	$13/15$	0.0856 ~ 0.0927
1110	$14/15$	0.0928 ~ 0.0999
1111	1	0.1000 ~ 1.0000

00311-22001-200